

Incidence and Mortality Rate Trends

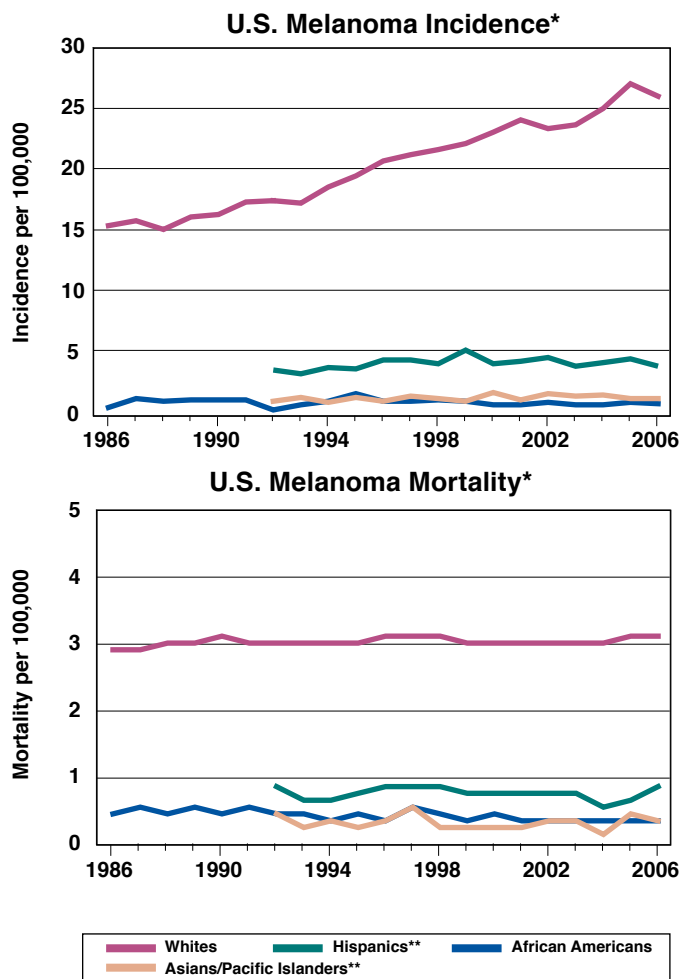
As the most serious form of skin cancer, melanoma is the sixth most common type of new cancer diagnosis in U.S. men and the seventh most common type in U.S. women. The incidence rate for invasive melanoma is highest in whites, who are almost 30 times more likely to develop melanoma than African Americans. Men aged 65 or older are more than twice as likely to develop melanoma as women in the same age group. The annual incidence of invasive cutaneous melanoma, the deadliest form of skin cancer, increased among white women aged 15 to 34 years by 3.8% annually since 1995 and among white men older than 65 by 8.8% annually since 2003.

It is estimated that in 2009, 68,720 individuals will be diagnosed with melanoma in the United States, and 8,650 people will die as a result of the disease.

Approximately \$1.5 billion¹ is spent in the United States each year on treatment of melanoma.

Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at <http://seer.cancer.gov/>.

¹Cancer Trends Progress Report (<http://progressreport.cancer.gov/>), in 2004 dollars, based on methods described in *Medical Care* 2002 Aug;40(8 Suppl):IV-104-17.



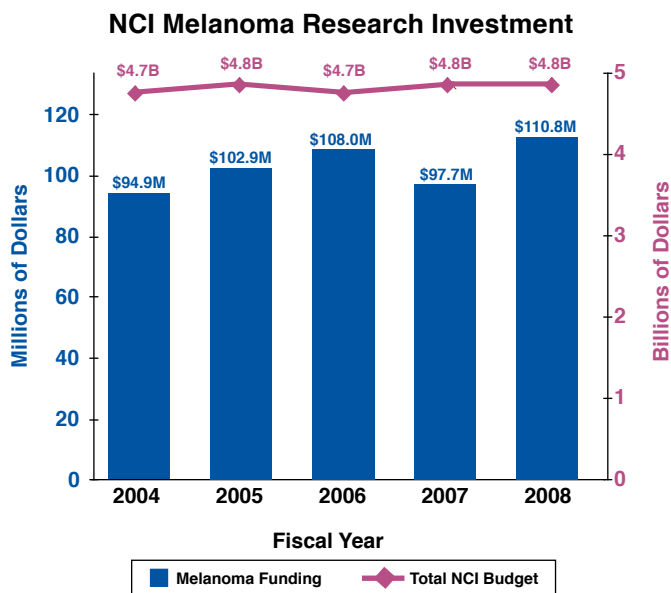
* Significant data for American Indians/Alaskan Natives not available.
** Incidence and mortality data not available before 1992.

Trends in NCI Funding for Melanoma Research

The National Cancer Institute's (NCI) investment² in melanoma research increased from \$94.9 million in fiscal year 2004 to \$110.8 million in fiscal year 2008.

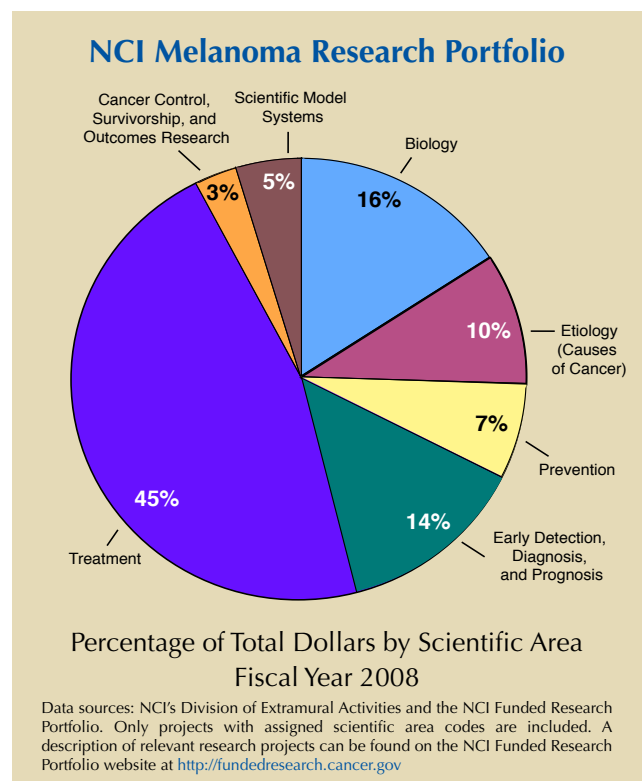
Source: NCI Office of Budget and Finance (<http://obf.cancer.gov/>).

²The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see <http://www.nih.gov/about/>.



Examples of NCI Activities Relevant to Melanoma

- Five skin cancer-specific **Specialized Programs of Research Excellence (SPORs)** are identifying risk factors for melanoma, developing models to predict the likelihood of metastasis, assessing the effectiveness of novel therapies, and developing new treatments. <http://spores.nci.nih.gov/current/skin/index.htm>
- The **Mouse Models of Human Cancers Consortium (MMHCC)** is developing a collection of mouse models that mimic human skin cancers, including malignant melanoma. http://emice.nci.nih.gov/mouse_models/organ_models/skin_models
- The **Tissue Array Research Program (TARP)** has collected samples of melanoma and metastatic lesions to construct multitumor tissue microarrays for studying the expression of genes and proteins. http://ccr.cancer.gov/tech_initiatives/tarp/MelanomaProgression.asp
- Health professionals can use the **Melanoma Risk Assessment Tool** to identify people at increased risk of melanoma and plan potential screening interventions. <http://www.cancer.gov/melanomarisktool/>
- The **Clinical, Laboratory, and Epidemiologic Characterization of Individuals and Families at High Risk of Melanoma Study** is determining how genetic and environmental factors contribute to melanoma development. <http://www.cancer.gov/clinicaltrials/ft-NCI-02-C-0211>



- The **What You Need to Know About™ Melanoma** booklet contains information about melanoma risks and prevention, symptoms, diagnosis, treatment, and follow-up care. Information specialists can also answer questions about cancer at 1-800-4-CANCER. <http://www.cancer.gov/cancertopics/wyntk/melanoma>
- The **Melanoma Home Page** directs visitors to up-to-date information on melanoma treatment, prevention, genetics, causes, screening, testing, and other topics. <http://cancer.gov/cancerinfo/types/melanoma>

Selected Advances in Melanoma Research

- Researchers discovered that a **protein called SOX9 inhibits melanoma cell proliferation** and increases the effectiveness of the chemotherapeutic drug retinoic acid. <http://www.cancer.gov/ncicancerbulletin/031009/page2>
- A mutation in the **gene called GNAQ is an important trigger** in the development of melanoma of the eye. http://www.cancer.gov/ncicancerbulletin/NCI_Cancer_Bulletin_121608/page6
- Researchers elucidated the **molecular events that lead to melanoma development** after exposure to UV radiation. http://home.ccr.cancer.gov/inthejournals/wang_pnas.asp
- Researchers developed **hollow gold nanospheres to target and photothermally ablate melanoma** in tumor-bearing mice. http://nano.cancer.gov/action/news/2009/feb/nanotech_news_2009-02-23b.asp